S/057/62/032/003/018/019
B119/B104

y

The force acting on a conducting...

$Q = -E_0 a^2 \zeta(2) = -\frac{\pi^2}{6} E_0 a^2 \approx -1.64 E_0 a^2$. The force acting upon the sphere is:

$$F = E_0^2 a^2 \left\{ \frac{2}{3} \int_0^\infty \frac{x^3 dx}{sh^2 x} + \frac{1}{6} \right\} = E_0^2 a^2 \left\{ \zeta(3) + \frac{1}{6} \right\} \approx 1.37 E_0^2 a^2.$$

There are 2 Soviet references.

ASSOCIATION: Fiziko-tekhnicheskiy institut im. A. F. Ioffe AN SSSR Leningrad (Physicotechnical Institute imeni A. F. Ioffe AN USSR Leningrad)

SUBMITTED: November 9, 1961

Card 2/2

LEBEDEV, Nikolay Nikolayevich; AKILOV, G.P., red.; LUK'YANOV, A.A.,
tekhn. red.

[Special functions and their applications] Spetsial'nye
funktsii i ikh prilozheniia. Izd.2., perer. i dop. Moskva, Fizmatgiz, 1963. 358 p. (MIRA 16:11)
(Functions)

ACCESSION NR: AP4035686 S/0057/64/034/005/0801/0808

AUTHOR: Lebedev, N.N.; Skal'skaya, I.P.

TITLE: Some problems of the theory of heat conductivity in wedge-shaped bodies. 1.

SOURCE: Zhurnal tekhnicheskoy fiziki, v.34, no.5, 1964, 801-808

TOPIC TAGS: thermal conductivity, wedge heat conductivity, Laplace transformation, Kontorovich Lebedev transformation

ABSTRACT: The temperature distribution is calculated within an infinite wedge-shaped body of arbitrary vertex angle, that was initially at the temperature T_0 throughout, and the two faces of which have been subsequently held at the temperature T_1. The calculation is performed by subjecting the temperature to a Laplace transformation with respect to time and a Kontorovich-Lebedev transformation (M.I. Kontorovich and N.N.Lebedev, ZhETF,8,1192, 1938) with respect to the distance from the certex of the wedge. The heat transfer equation is thereby transformed to an ordinary differential equation. This is solved, and the temperature is obtained with the aid of inversion formulas for the Laplace and Kontorovich-Lebedev transformations. This leads to an expression for the temporature in the form of a contour

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ACCESSION NR: AP4035686

integral. For a wedge with the vertex angle π/n, where n is an integer, this expression is simplified and the temperature is expressed as the sum of n terms. When n is odd, the terms of this sum are error functions of appropriate arguments; when n is even, the terms of the sum can be expressed by means of the function T(h,a) introduced by D.B.Owen (The bivariate normal probability distribution, Sandia Corporation, Res.rep.,March,1957) and tabulated by N.V.Smirnov and L.N.Bol'shev (Tablitsy* dlya vy*chisleniya funktsii dvumernogo normalnogo raspredeleniya, Izd.AN SSSR,M., 1962). The integral transformation method employed in this calculation is also suitable for treating boundary value problems in which a linear relation between the unknown function and its normal derivative is specified on the boundary (boundary conditions of the third kind). Orig.art.has: 40 formulas and 1 figure.

ASSOCIATION: Fiziko-tekhnicheskiy institut im.A.F.Ioffe AN SSSR,Leningrad (Physico-technical Institute, AN SSSR)

SUBMITTED: 08Jul63

DATE ACQ: 20May64

ENCL: 00

SUB CODE: TD

NR REF SOV: 008

OTHER: 002

Card 2/2

EWT(1)/EPA(s)-2/EPF(n)-2/EWG(v)/EPR/EWA(1) Pe-5/Ps-4/Pt-10/Pu-4/

L 12001-65
ASD(a)-5/AEDC(a)/ASD(d) WW S/0057/64/034/009/1556/1565

ACCESSION NR: AP4045264

AUTHOR: Lebedev, N.N.; Skal'skaya, I.P.

TITLE: Some problems of the theory of heat conduction in wedge-shaped bodies. 2B

SOURCE: Zhurnal tekhnicheskoy fiziki, v.34, no.9, 1964, 1556-1565

TOPIC TAGS: Cauchy problem, heat conduction equation, Laplace transformation

ABSTRACT: Cauchy's problem for the heat conduction equation is solved for the wedge-shaped region bounded by the planes $\varphi = \pm\gamma$ (r, φ, z are cylindrical coordinates, 2γ is the vertex angle of the wedge) with the initial condition that the temperature be uniform throughout the region and the boundary conditions that the temperature gradient at the boundary planes be in the direction of the outward normal and proportional to the temperature. The solution of this problem describes the cooling of a homogeneous wedge-shaped body of initially uniform temperature immersed in a medius of which the temperature remains constant at a value that is arbitrarily set equal to zero. The solution is effected by successively performing a Laplace transformation with respect to time and a Kontorovich-Lebedev transformation (M.I.Kontorovich and N.N.Lebedev, ZhETF 8,1192,1938; N.N.Lebedev, PMM 13,465,1949) with respect

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L 12001-65
ACCESSION NR: AP4045264

to r. The transformed temperature is found to satisfy a functional equation of a type previously discussed by the authors (ZhTF 32,1174,1962). The solution of this functional equation is discussed, and in the special cases $2\gamma = \pi/n$, where n is an integer, it is effected. The corresponding solutions of the heat flow equation are then obtained by performing inverse Kontorovich-Lebedev and Laplace transformations. When n is odd the solution is obtained as a finite sum of products of exponential and error functions; when n is even the solution is more involved, and the general solution for even n is not written. The solution obtained reduces for n = 1 to the familiar solution for a plane boundary, and for n = 2 to a previously known solution for a rectangular wedge. It is suggested that similar methods may prove to be applicable to other problems. Orig.art.has: 63 formulas and 1 figure.

ASSOCIATION: Fiziko-tekhnicheskiy institut im.A.F.Ioffe AN SSSR,Leningrad (Physico-technical Institute, AN SSSR)

SUBMITTED: 11Dec63

ENCL: 00

SUB CODE: TD, ME

NR REF SOV: 004

OTHER: 000

2/2

L 30378-66 EWT(d)/EWT(m)/EWP(w) IJP(c) EM

SOURCE CODE: UR/0040/66/030/002/0252/0258

ACC NR: AP6012544

36

B

AUTHORS: Lebedev, N. N. (Leningrad); Skal'skaya, I. P. (Leningrad)

ORG: none

TITLE: An expansion for an arbitrary function in integrals of spherical functions

SOURCE: Prikladnaya matematika i mekhanika, v. 30, no. 2, 1966, 252-258

TOPIC TAGS: Legendre polynomial, asymptotic expansion, boundary value problem, elasticity, FUNCTION, MATHEMATIC PHYSICS

16

ABSTRACT: A mathematical method is outlined for the solution of a boundary value problem in mathematical physics and elasticity theory for a hyperboloid of revolution of one sheet. The problem consists of showing the existence of an expansion of the arbitrary function f(x) which is defined by a Mehler-Fok type integral or,

$$f(x)=\int_0^\infty \frac{\tau\,\mathrm{th}\,\pi\tau}{\mathrm{ch}\,\pi\tau}\left\{\frac{P_{-1/_2+i\tau}(ix)+P_{-1/_2+i\tau}(-ix)}{2}\int_{-\infty}^{\infty} f(y)\,\frac{P_{-1/_2+i\tau}(iy)+P_{-1/_2+i\tau}(-iy)}{2}\,dy+\right.$$

$$\left.+\frac{P_{-1/_2+i\tau}(ix)-P_{-1/_2+i\tau}(-ix)}{2i}\int_{-\infty}^{\infty} f(y)\,\frac{P_{-1/_2+i\tau}(iy)-P_{-1/_2+i\tau}(-iy)}{2i}\,dy\right\}d\tau$$

$$(-\infty<x<\infty)\,.$$

The following theorem is proved: Let f(x) be a given function defined in the domain

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ACC NR: AP6012544

$(-\infty, \infty)$ and satisfying the conditions; 1) f(x) is piecewise continuous and has bounded variation in the interval $(-\infty, \infty)$, and 2)

$$f(x)|x|^{-1/2}\ln(1+|x|)\in L(-\infty, -a)$$
$$f(x)x^{-1/2}\ln(1+x)\in L(a, \infty) \quad (a>0),$$

then there exists the expansion

$$\frac{1}{2}[f(x+0)+f(x-0)] = \qquad (-\infty<x<\infty)$$
$$=\int_0^\infty \frac{\tau\,\mathrm{th}\,\pi\tau}{\mathrm{ch}\,\pi\tau}\left\{\frac{P_{-1/2+i\tau}(ix)+P_{-1/2+i\tau}(-ix)}{2}\int_{-\infty}^{\infty} f(y)\frac{P_{-1/2+i\tau}(iy)+P_{-1/2+i\tau}(-iy)}{2}\,dy+\right.$$
$$\left.+\frac{P_{-1/2+i\tau}(ix)-P_{-1/2+i\tau}(-ix)}{2i}\int_{-\infty}^{\infty} f(y)\frac{P_{-1/2+i\tau}(iy)-P_{-1/2+i\tau}(-iy)}{2i}\,dy\right\}d\tau\,.$$

The proof is given for even and odd functions separately after several values and asymptotic characteristics of the above spherical functions have been investigated. Two examples are considered. The first defines f(x) as

$$f(x)=\begin{cases}1, & |x|<a\\ 0, & |x|>a\end{cases}$$

and the second,

$$f(x)=\begin{cases}(a^2-x^2)^{-1/2} & |x|<a\\ 0\,, & |x|>a\,.\end{cases}$$

Orig. art. has: 42 equations.

SUB CODE: 12/ SUBM DATE: 02Nov65/ ORIG REF: 005/ OTH REF: 003

Card 2/2 ʃ'e

ACC NR: AP6033204 SOURCE CODE: UR/0040/66/030/005/0889/0896

AUTHOR: Lebedev, N. N. (Leningrad); Skal'skaya, I. P. (Leningrad)

ORG: none

TITLE: Certain boundary value problems in mathematical physics and elasticity theory for a hyperboloid of rotation of one sheet

SOURCE: Prikladnaya matematika i mekhanika, v. 30, no. 5, 1966, 889-896

TOPIC TAGS: rotation hyperboloid, boundary value problem, elasticity theory, Dirichlet problem

ABSTRACT: This paper studies a technique of solving boundary value problems in potential theory and elasticity theory for one-sheet hyperboloids of rotation which is based on use of an integral presentation. Boundary value problems for hyperboloids of revolution and the problems in elasticity theory leading to these boundary value problems belong to the class of problems with separable variables and their solution presents no fundamental difficulties. Despite this, the literature studies in detail only the case of two-sheet hyperboloids, while the corresponding problems referring to regions delimited by the surface of a single-sheet hyperboloid have not in fact been studied. The reason for this is apparently the inadequate development of the mathematical apparatus involved in solving problems of this type. A substantial part of this apparatus is comprised of the theorem of expansion of an arbitrary function

ACC NR: AP6033204

f(x) (determined in the interval from minus infinity to plus infinity) into an integral with spherical functions

$$f(x)=\int_{0}^{\infty}\frac{\tau\,\mathrm{th}\,\pi\tau}{\mathrm{ch}\,\pi\tau}\left\{\frac{P_{-1/2+i\tau}(ix)+P_{-1/2+i\tau}(-ix)}{2}\int_{-\infty}^{\infty}f(y)\frac{P_{-1/2+i\tau}(iy)+P_{-1/2+i\tau}(-iy)}{2}dy+\right.$$

$$\left.+\frac{P_{-1/2+i\tau}(ix)-P_{-1/2+i\tau}(-ix)}{2i}\int_{-\infty}^{\infty}f(y)\frac{P_{-1/2+i\tau}(iy)-P_{-1/2+i\tau}(-iy)}{2i}dy\right\}d\tau$$

$$(-\infty<x<\infty)$$

This expansion has been recently demostrated by the authors. The aim of the present paper is to derive a solution to several problems in mathematical physics and elasticity theory on the basis of the theorem discussed. The results in the paper may be used to examine an extensive class of boundary value problems for one-sheet hyperboloids. The starting point is the Dirichlet problem of a one-sheet hyperboloid of rotation, and given (α, β,ϕ) a system of curvilinear coordinates connected with a system of cylindrical coordinates (r, z, ϕ) by the relationships

$$r=c\,\mathrm{ch}\,\alpha\sin\beta,\quad z=c\,\mathrm{sh}\,\alpha\cos\beta\quad(-\infty<\alpha<\infty,\ 0<\beta<{}^{1}/_{2}\pi)$$

the authors arrive at

$$u=2\int_{0}^{\infty}\frac{\tau\,\mathrm{th}\,\pi\tau}{\mathrm{ch}\,\pi\tau}F(\tau)\frac{P_{-1/2+i\tau}(\cos\beta)}{P_{-1/2+i\tau}(\cos\beta_0)}\frac{P_{-1/2-i\tau}(i\,\mathrm{sh}\,\alpha)+P_{-1/2+i\tau}(-i\,\mathrm{sh}\,\alpha)}{2}d\tau$$

$$(-\infty<\alpha<\infty,\ 0<\beta<\beta_0)$$

ACC NR: AP6033204

the solution when f(shα) is even and F(τ) is the coefficient to be found. Orig. art. has: 46 formulas.

SUB CODE: 12, 20/ SUBM DATE: 07Dec65/ ORIG REF: 008

Card 3/3

LEBEDEV, N.N.; SMIRNOVA, M.M.

Reactions of α-oxides. Part 7: Acid catalysis and autocatalysis in the reaction of ethylene oxide with amines. Kin.i kat. 6 no.3:457-465 My-Je '65. (MIRA 18:10)

1. Moskovskiy khimiko-tekhnologicheskiy institut imeni Mendeleyeva.

L 46222-65 EWT(1)/EWA(h) Peb UR/0120/65/000/002/0154/0157

ACCESSION NR: AP5011887

AUTHOR: Lebedev, N. N.; Moiseyev, B. N.; Popov, L. V.

TITLE: Electron photorecorder with a light amplifier and time marker

SOURCE: Pribory i tekhnika eksperimenta, no. 2, 1965, 154-157

TOPIC TAGS: photorecorder, photorecording, image converter, image intensifier, time marker

ABSTRACT: An electron-optical photorecorder is described which makes it possible to record fast luminous processes with scanning speeds of 10—500 km/sec. The test phenomenon is photographed from the screen of an image intensifier which operates in series with an input image-converter tube and a photocamera attachment (1:1.5, [illegible]. A time marker provides a time scale along with a process record which makes it possible to determine the instantaneous scanning speed at any place on the input screen of the image converter. The image intensifier (a light amplifier) enhances the aperture ratio of the entire system, affecting its optical resolution only slightly. Orig. art. has: 5 figures. [03]

ASSOCIATION: none

Card 1/2

[illegible]

ACCESSION NR: AP5011887

SUBMITTED: 09Mar64	ENCL: 00	SUB CODE: EC, OP
NO REF SOV: 008	OTHER: 000	ATD PRESS: 4002

Card 2/2

LEBEDEV, N.N., dotsent, kand. tekhn. nauk; MESHCHERYAKOV, A.V., kand. tekhn. nauk

High-precision optical centering device. Izv. vys. ucheb. zav.; geod. i aerof. no.3:109-116 '64. (MIRA 18:3)

1. Moskovskiy institut inzhenerov geodezii, aerofotos"yemki i kartografii (for Lebedev). 2. Khar'kovskiy zavod marksheyderskikh instrumentov (for Meshcheryakov).

LEBEDEV, N.N.; GUS'KOV, K.A.

Reactions of α-oxides. Part 5: Reactivity of carboxylic acids in the reaction with ethylene oxide. Kin. i kat. 5 no.5:787-791 S-O '64. (MIRA 17:12)

1. Moskovskiy khimiko-tekhnologicheskiy institut imeni Mendeleyeva.

LEBEDEV, N.P.

Multipurpose electric machine for pruning and shaping mulberry trees. Sel'khozmashina no.8:11-13 Ag '56. (MLRA 9:10)

1. Glavnyy inzhener Yuzhno-Ukrainskoy mashinoispytatel'noy stantsii.
(Pruning) (Electric apparatus and appliancies)

LEBEDEV, N.P., inzhener.

Appraisal of the "Stalinets-8" combine on the basis of its performance in Siberia. Sel'khozmashina no.3:3-7 Mr '55. (MLRA 8:4)

1. Sibirskaya MIS.
(Combines (Agricultural machinery))

LEBEDEV, N.P.

Hopper feeding of OT-1 machines. Tekst. prom. 17 no.3:44-45 Mr '57.
(Cotton machinery) (MLRA 10:4)

LEBEDEV, N.P., inzh.

Investigation of a system for the mechanization of tomato harvesting operations. Trakt. i sel'khozmash. 31 no.12:22-23 D '61.
(MIRA 15:1)

1. Yuzhno-Ukrainskaya mashinoispytatel'naya stantsiya.
(Tomatoes) (Harvesting machinery)

1. LEBEDEV, N. P.

2. USSR (600)

4. Krasnovidovo - soils

7. Geographical soil map of the vicinity of the "Krasnovidovo" geographic station. Trudy Geog. st. "Krasnocidovo" no. 2. 1948

9. Monthly List of Russian Accessions, Library of Congress, March 1953, Uncl.

ZVORYKIN, K.V.; PERTSEVA, A.A.; TSEDELER, Ye.E.; LEBEDEV, N.P.; VIDINA, A.A.

Work in the typing and qualitative evaluating of arable lands.
Vop.geog. no.43:86-108 '58. (MIRA 12:5)
(Soils)

IVANOV, K.I., red.; BELOTSERKOVSKIY, M.Yu., red.; BOLYSHEV, N.N., red.; GEDYMIN, A.V., red.; GLAZOVSKAYA, M.A., red.; GOLOVENKO, S.V., red.; ZVORYKIN, K.V., red.; IGNAT'YEV, G.M., red.; KUZNETSOV, G.A., red.; LEBEDEV, N.P., red.; LEBEDEV, P.N., red.; RAKITNIKOV, A.N., red.; SHEYNIN, L.B., red.; GREBTSOV, P.P., red.; YERMAKOV, M.S., tekhn. red.

[Accounting for and the evaluation of agricultural land] Uchet i otsenka sel'skokhoziaistvennykh zemel'. Pod red. K.I. Ivanova. Moskva, Izd-vo Mosk. univ., 1963. 385 p. (MIRA 16:7)

(Farm--Valuation) (Soils--Classification) (Cadasters)

LEBEDEV, N.P., inzh.; LIVSHITS, L.S., inzh.; SPIRIDONOV, V.M., inzh.

Precast prestressed concrete smoke stacks. Mont. i spets. rab. v stroi. 24 no.5:9-12 My '62. (MIRA 15:5)

1. Eksperimental'no-konstruktorskoye byuro Nauchno-issledovatel'skogo instituta stroitel'noy promyshlennosti.
(Chimneys) (Precast concrete construction)

LEBEDEV, N.P., inzh.

The ZhRS-4,9 harvester with a belt-plank conveyor. Mashinostroenie no.5:98-99 S-O '65. (MIRA 18:9)

GVOZDETSKIY, N.A., prof.; ZHUCHKOVA, V.K., dots.; ALISOV, B.P., prof.; VASIL'YEVA, I.V., dots.; VARLAMOVA, M.N., tekhnik-kartograf; DOLGOVA, L.S., dots.; ZVORYKIN, K.V., st. nauchnyy sotr.; ZEMTSOVA, A.I., assistent; IVANOVA, T.N.; LEBEDEV, N.P., st. prepodavatel'; LYUBUSHKINA, S.G.; NESMEYANOVA, G.Ya., mlad. nauchnyy sotr.; PASHKANG, K.V., st. prepod.; POLTARAUS,B.V., dots.; RYCHAGOV, G.I., st. prepod.; SPIRIDONOV, A.I., dots.; SMIRNOVA, Ye.D., mlad. nauchnyy sotr.; SOLNTSEV, N.A., dots.; FEDOROVA, I.S., mlad. nauchnyy sotr.; TSESEL'CHUK, Yu.N., mlad. nauchnyy sotr.; SHOST'INA, A.A., mlad. nauchnyy sotr.; Prinimali uchastiye: BELOUSOVA, N.I.; GOLOVINA, N.N.; KALASHNIKOVA, V.I.; KOZLOVA, L.V.; KARTASHOVA, T.N.; PAN'KOVA, L.I.; URKIKHO, V.; PETROVA, K.A., red.; LOPATINA, L.I., red.; YERMAKOV, M.S., tekhn. red.

[Physicogeographical regionalization of the non-Chernozem center] Fiziko-geograficheskoe raionirovanie nechernozemnogo tsentra. Pod red. N.A.Gvozdetskogo i V.K.Zhuchkovoi. Moskva, Izd-vo Mosk. univ., 1963. 450 p. (MIRA 16:5)

(Physical geography)

TROYEPOL'SKIY, V.I.; LEBEDEV, N.P.

Regularities in the distribution of bitumens in the Permian sediments of the Melekes depression. Izv. vys. ucheb. zav.; neft' i gaz 7 no.7:13-17 '64. (MIRA 17:9)

1. Kazanskiy gosudarstvennyy universitet im. V.I. Ul'yanova-Lenina.

LEBEDEV, N.V., inzh.

Plow base with a self-sharpening share and sliding chisel. Mashinostroenie no.4:97-98 Jl-Ag '65.

(MIRA 18:8)

LEBEDEV, N. P.

DECEASED

1963/1

c. 1960

MEDICINE
(Obstetrics)

see ILC

ARTEM'YEV, A.V., kand.geol.-mineral.nauk; KRUPKIN, L.V., inzh.;
LEBEDEV, N.S., inzh.; RODIONOV, G.A., inzh.

Expediency of using horizontal drainage holes in pits of the Kursk Magnetic Anomaly. Gor.zhur. no.5:16-19 My '62.
(MIRA 16:1)

1. Nauchno-issledovatel'skiy institut po problemam Kurskoy magnitnoy anomalii, g. Gubkin.
(Kursk magnetic anomaly--Mine drainage)

ULITOVSKIY, Boris Alekseyevich; MARKOV, B.P., kand.tekhn.nauk, retsenzent; LEBEDEV, N.S., kand.tekhn.nauk, retsenzent; GRIBANOV, V.I., kand. tekhn.nauk, red.; SIMONOVSKIY, N.Z., red.izd-va; FRUMKIN, P.S., tekhn.red.

[The U14 and U12 diesel generator units] Dizel'-generatornye ustanovki U14 i U12. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit. lit-ry, 1960. 141 p. (MIRA 13:5)
(Electric generators)

LEBEDEV, Nikolay Sergeyevich;ZOBNIN, B.F.,kandidat tekhnicheskikh nauk, retsenzent; KOBYaKOV, P.V.,kandidat tekhnicheskikh nauk, nauchnyy redaktor;DUGINA, N.A.,tekhnicheskiy redaktor

[Gas heat-treatment furnaces; construction and operation] Gazovye nagrevatel'nye pechi; konstruktsii i ekspluatatsiia. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1956. 185 p. (MLRA 10:4)

(Furnaces, Heat--Treating)

PHASE I BOOK EXPLOITATION SOV/3482

Nauchno-tekhnicheskoye obshchestvo mashinostroitel'noy promyshlennosti. Sverdlovskoye otdeleniye

Mekhanizatsiya i avtomatizatsiya mashinostroitel'nogo proizvodstva (Mechanization and Automation in the Machine-Building Industry) [illegible], [illegible], 1959. 519 p. 12,000 copies printed.

Ed.: Ya. V. Pal'mov, Doctor of Technical Sciences; Tech. Ed.: N. A. [illegible]; Editorial Board: P. P. Vshivkov, Engineer, V. V. [illegible], [illegible] Technical Sciences, Ya. V. Pal'mov, Doctor of Technical [illegible] Poruchikov, Candidate of Technical Sciences, V. V. [illegible] Technical Sciences, K. N. Sokolov, Candidate of Technical [illegible], [illegible] Sokolovskiy, Candidate of Technical Sciences, M. I. [illegible], B. K. Shumayev, Candidate of Technical Sciences, and F. [illegible], Engineer.

PURPOSE: This book is intended for production engineers and personnel engaged in industrial planning.

COVERAGE: The material presented in this book is said to be based on [illegible] developed and tested in the machine-building plants of the [illegible] of Siberia. Listed are various methods of mechanization [illegible] and their applications in foundries, forging shops, and [illegible]. Other fields of use include welding, hoisting, conveying, [illegible], and quality control on an industrial scale. Various mechanisms, devices, tools, and instruments currently used in mechanization and automation of [illegible] industrial processes are described and illustrated. The equipment mentioned is said to have been produced by the plants using their own resources. The economic aspects of mechanization and automation are discussed. There are [illegible]

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   - High-frequency current treatment 236
   - Mechanization of annealing processes 237
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   - Taking samples from carburizing boxes 248
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4. Mechanization and Automation of Induction (Ivanov, V.A., M. A. Rubinshtik, M. L. Myaktis, N. M. Sidnev, F. P. Yaremin, A. G. Baranov, V. V. Milovidov, and B. F. Artem'yev, Engineers)
   - Heating of parts 255
   - High frequency quench-hardening of tractor parts 256
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1. Mechanization and Automation of Metal-Cutting Machine Tools (Bayevskiy, S. A., M. A. Korolev, I. G. Nikulin, I. S. Mintsengendler, V.P. Sazhin, and Ye. L. Shishkin, Engineers) 297
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Automation of axial displacement of a hob in a gear generating machine (Shumayev, B. K., Candidate of Technical Sciences, and G. M. Shalin, Engineer) 331

LEBEDEV N S

ZLATKIN, Moisey Grigor'yevich; DOROKHOV, Nikolay Nikolayevich; LEBEDEV, Nikolay Ivanovich; MAKAROV, Nikolay Yevgen'yevich; NEYSHTAT, Zyama Fal'kovich; SYCHEV, Arkadiy Mikhaylovich; SKLYUYEV, P.V., kand. tekhn. nauk, retsenzent; TASHCHEV, A.K., kand. tekhn. nauk, retsenzent; TRUBIN, V.N., kand. tekhn. nauk, retsenzent; VSHIVKOV, P.P., inzh., retsenzent; KON'KOV, A.S., inzh., retsenzent; LEBEDEV, N.S., inzh., retsenzent; POTEKUSHIN, N.V., inzh., retsenzent; TYAGUNOV, V.A., doktor tekhn. nauk, red.; SOKOLOV, K.N., kand. tekhn. nauk, red.; SKORNYAKOV, V.B., red.; YAROSHENKO, Yu.G., red.; ZAKHAROV, B.P., inzh., red.; AMIROV, I.M., inzh., red.; MYSHKOVSKIY, V.A., inzh., red.; SHELEKHOV, V.A., inzh., red.; BOGOMOLOV, O.P., inzh., red.; KATS, I.S., inzh., red.; LEVANOV, A.N., inzh., red.; DUGINA, N.A., tekhn. red.

[Handbook on forging practices] Spravochnik rabochego kuznechno-shtampovochnogo proizvodstva. By M.G.Zlatkin i dr. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1961. 776 p. (MIRA 14:9)

(Forging—Handbooks, manuals, etc.)

LEBEDEV, Nikolay Sergeyevich; TELEGIN, Aleksandr Semenovich, dots., kand. tekhn. nauk. Prinimali uchastiye: SOKOLOV, K.N., dots., kand. tekhn. nauk; SUKHANOV, Ye.L., dots., kand. tekhn. nauk; LYTKIN, V.I., inzh., retsenzent; DUGINA, N.A., tekhn. red.

[Heating furnaces]Nagrevatel'nye pechi. Moskva, Mashgiz, 1962. 344 p. (MIRA 15:12)

(Furnaces, Heating)

LEBEDEV, N.S.

Standardization of forge furnaces. Kuz.-shtam. proizv. 4 no.9:33-37 S '62. (MIRA 15:9)

(Furnaces, Heating)

ACCESSION NR AM4008907 BOOK EXPLOITATION S/

Dolgopol'skiy, I. M.; Labutin, A. L.; Lebedev, N. S.; Babayan, Sh. A.; .
Mal'shina, L. P.

Ethynol lacquer (Lak etinol'), Moscow, Goskhimizdat, 1963, 66 p. illus., biblio. Errata slip inserted. 5,500 copies printed. Series note: Korroziya v khimicheskikh proizvodstvakh i sposoby* zashchity*, vy*p. 19.

TOPIC TAGS: corrosion, ethynol lacquer, chemical resistant plastic, protective paint, acetylene hydrocarbon, acetylene trimer, tetrameric acetylene

PURPOSE AND COVERAGE: The book describes the methods of obtaining and using ethynol lacquer as a film-forming substance in protective paints and grounds and also as the base when making chemical-resistant plastics. The book is intended for engineers and technicians specializing in the protection of equipment and metallic articles from corrosion.

TABLE OF CONTENTS [abridged]:

Introduction - - 6
Ch. I. Methods of obtaining and the properties of acetylene hydrocarbons - - 7

Card 1/2

LEBEDEV, N. S.
(Armenian)

DECEASED
c. '61

1964

CHEMISTRY
CHLOROPRENE

LEBEDEV, N. T.

5777. Uplotnennaya pogruzka sel'khozmashin po st. Bezhetsk severnoy zheleznoy dorogi. Yaroslavl', 1954. 16s. s ill.; i 1 skhem. 20sm. (M-Vo Putey soobsheheniya SSSR. Sev.zh. d. Kommerch. Sluzhaba, Dor NITO 1 tekhn. otd. dorogi. obmen opytom. inform. Pis'mo No. 22 (24)). 250 ekz. B. ts.-Sost. ukazany na oborote tit. 1 (54-15651 zh) 656.225.2st +656.225.435

SO: Knizhnaya, Letopis, Vol. 1, 1955

LEBEDEV, M.V.

Subject : USSR/Meteorology and Hydrology AID P - 1862

Card 1/1 Pub. 71-a - 5/26

Author : Lebedev, N.V., Kand. of Phys., Math. Sci.

Title : On estimating the role of dynamic turbulence in the developing of convection

Periodical : Met. i gidro., no.2, 21-26, 1955

Abstract : A mathematical analysis of the instability of air masses based on equations. The author states the importance of establishing the thickness of the layer of the gap between the wind vector and the altitude - which brings about thermodynamic instability - and of finding the condensation level. He contends further that only in cases of high specific humidity in surface layers does dynamic turbulence lead to convection. Three diagrams are given. Five Russian references of 1938, 1946, 1947, 1947 and 1951.

Institution: None

Submitted : No date

BESKROVNYY, L.D., inzh.; KORSAKOVA, T.M., inzh.; LEBEDEV, N.V., inzh.; PETROVA, Ye.P., inzh.; RUTKOVSKAYA, R.F., inzh.; FIGMAN, G.Ya., inzh.; SHTIVEL', O.B., inzh.; ISEYEVA, R.Kh., red.izd-va; SALAZKOV, N.P., tekhn. red.

[City streets and roads; their construction] Gorodskie ulitsy i dorogi; konstruktsii. Moskva, Izd-vo M-va kommun.khoz. RSFSR, 1963. 25 p. (MIRA 16:8)

1. Russia (1917- R.S.F.S.R.) Upravleniye blagoustroistva gorodov RSFSR.
(Streets) (Road construction)

30(1)

AUTHOR: Lebedev, N.V. SOV/26-59-2-25/53

TITLE: Selection of Branch-Eared Wheat-Quitch Hybrids of the Winter Type (Selektsiya vetvistokolosykh pshenichno-pyreynykh gibridov ozimogo tipa)

PERIODICAL: Priroda, 1959, Nr 2, pp 98-100 (USSR)

ABSTRACT: The author obtained, in the fifth generation, hybrids of wheat (Triticum vulgare) with couch grass (Agropyron glaucum) with a different degree of a dendritic wheat ear. Academician N.V. Tsitsin classified these hybrids as the following varieties of wheat: Triticum vulgare rubroramosum or Triticum vulgare v. alboramosum, according to the color of the grain. The author found that selected grains of these hybrids sown on a rich soil gave a very high percentage of dendritic plants. There is 1 photograph.

ASSOCIATION: Kalininskaya sel'skokhozyaystvennaya opytnaya stantsiya (Kalinin Agricultural Experimental Station)

Card 1/1

26.2152

40593
S/535/62/000/145/002/002
I011/I211

AUTHOR: Lebedev, N. V., Candidate of Technical Sciences

TITLE: A method for calculating the parameters of a high-frequency activating circuit

SOURCE: Moscow. Aviatsionnyy institut. Trudy, no. 145, 1962. Voprosy elektroavtomatiki i elektro-oborndovaniya samoleta, 78-98

TEXT: In some ignition systems of jet engines use is made of a high-voltage high-frequency tank circuit with a spiral sectionalized cylindrical condenser. The distributed self inductance of the plates of this condenser is used as the self inductance of the primary tank circuit (which is inductively coupled to the secondary one). The energy stored in such a capacitor is spent in the coupled circuit during the oscillations with lower losses.

A formula of the capacitance and a picture of the electric field are derived from an equivalent circuit. The electric strength is dealt with and a method for computing the main dimensions of the capacitor is described. A method for computing the inductance of the condenser and of the secondary tank circuit coil is stated. The equivalent circuit is based on the assumption of a homogeneous field in the dielectric and takes account of the plates reistance and of the resistance of the dielectric. Experimental results differ from the calculated ones by 10 to 15 per cent. When dealing with the electric strength one must not forget the possibility of leakage through the flanges. The flange width is usually taken as 6 mm. It is assumed for the inductance

Card 1/2

A method for calculating the...

S/535/62/000/145/002/002
I011/I211

calculation that each spire of the condenser is a thin-walled cylinder. The magnetic fields of the diplacement current and of the leakage flux are neglected. A numerical example is given, yielding L = 6.1μHy. Experimental data for the same case show L = 5.6 μHy. The inductance of the one-layer cylindrical coil on a "magnetit" core (the inductance of the secondary tank circuit) is calculated by finding the mean value of the magnetic induction on its axis and thus knowing the flux. A numerical example is given. Its result is quite near to the experimental data. There are 15 figures.

Card 2/2

LEBEDEV, N.V.

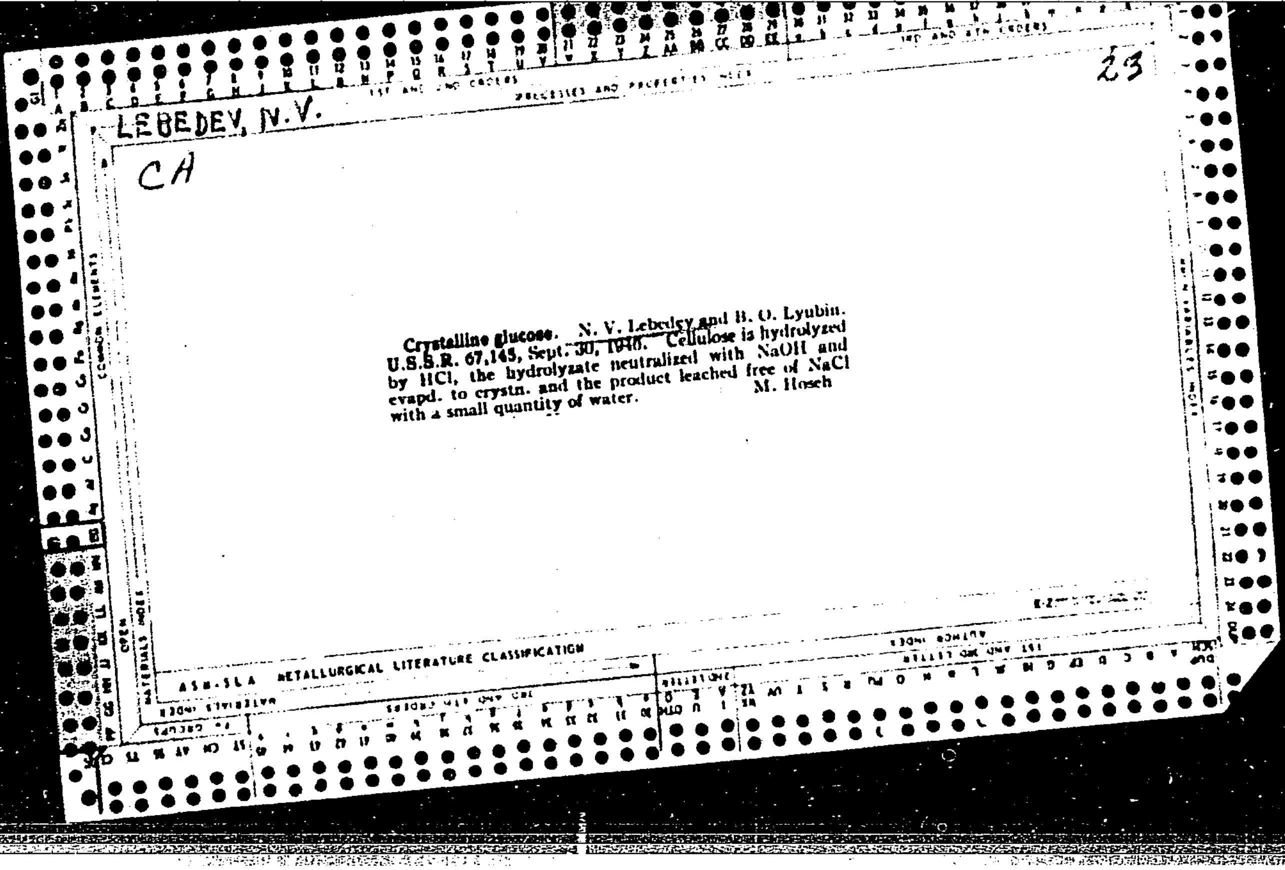
Towards a more complete gathering of materials in departmental organizations. Geod. i kart. no.11:40-42 N '64. (MIRA 18:2)

LEBEDEV, N.V. (g.Voronezh)

Courses for physics teachers during the summer of 1960. Fiz. v shkole 20 no.3:104-105 My-Je '60. (MIRA 13:11)
(Physics—Study and teaching)

LEBEDEV, N.V., kand.tekhn.nauk

Calculating components of a high-frequency activating circuit. Trudy MAI no.145:78-98 '62. (MIRA 15:9)
(Electric circuits)



LEBEDEV, N.V.

CA

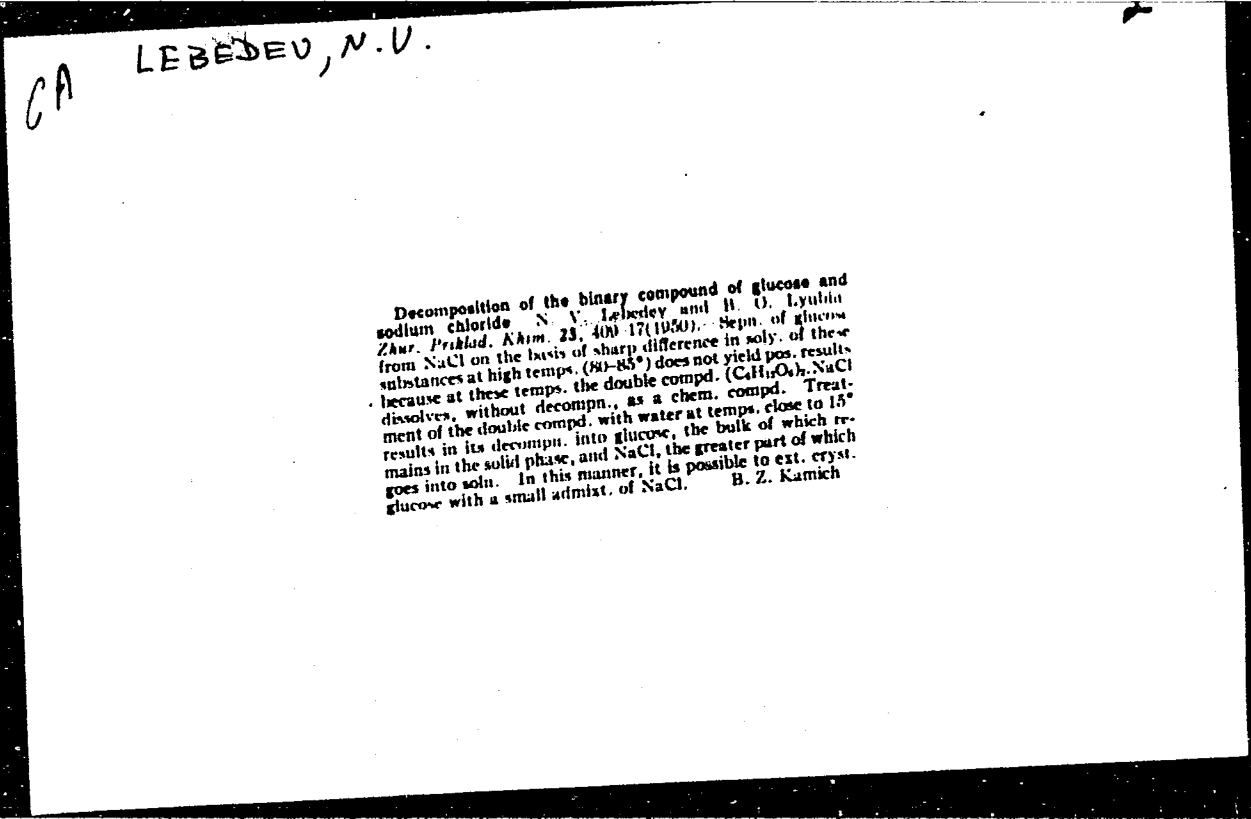
23

Crystalline glucose. N. V. Lebedev and B. O. Lyubin. U.S.S.R. 67,145, Sept. 30, 1946. Cellulose is hydrolyzed by HCl, the hydrolyzate neutralized with NaOH and evapd. to crystn. and the product leached free of NaCl with a small quantity of water. M. Hosch

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

CA

The optimum conditions for preparing crystalline glucose. N. V. Lebedev, B. O. Lyubin, and D. M. Khar. *J. Applied Chem. U.S.S.R.* **23**, 781-7(1950)(Engl. translation). The soly. of $(C_6H_{12}O_6)_2.NaCl$ (I) in H_2O at various temps. was detd. The binary compd. was prepd. according to a method previously described (*J. Applied Chem. U.S.S.R.* **23**, 100, 1950). The compd. analysis in % was: $C_6H_{12}O_6$ 82.65, NaCl 18.58, H_2O 1.07. The soly. tests were run at a temp. ranging from -10 to +40°. The data show that when I is dissolved at a temp. below 25° it is decompd. into glucose and NaCl. At 30° and higher I dissolves like a single compd. without decompn. The optimum temp. for recovery of glucose from I was 15°; the highest glucose yield was at 5°. The optimum ratio for I-H_2O for the best recovery of glucose was 1:1.5. It is suggested that grinding the crystals of I to a powder before decompg. with H_2O to remove cryst. glucose is advisable. Curves illustrate the soly. relations of glucose and NaCl. R. J. Allgeier



CA LEBEDEV, N. V.

Decomposition of the binary compound of glucose and sodium chloride N. V. Lebedev and B. O. Lyubin *Zhur. Priklad. Khim.* 23, 400-17(1950). Sepn. of glucose from NaCl on the basis of sharp difference in soly. of these substances at high temps. (80-85°) does not yield pos. results because at these temps. the double compd. $(C_6H_{12}O_6)_2 \cdot NaCl$ dissolves, without decompn., as a chem. compd. Treatment of the double compd. with water at temps. close to 15° results in its decompn. into glucose, the bulk of which remains in the solid phase, and NaCl, the greater part of which goes into soln. In this manner, it is possible to ext. cryst. glucose with a small admixt. of NaCl. B. Z. Kamich

BA

/18

Optimal conditions for obtaining crystalline glucose. II. N. V. Lebedev, B. O. Lyubin, and D. M. Khai (*J. appl. Chem. U.S.S.R.*, 1950, **23**, 739—746; cf. B., 1951, II, 620).—The solubility of $(C_6H_{12}O_6)_2.NaCl.H_2O$ (I) obtained from chemically-pure glucose and NaCl has been investigated between −10° and 40°. Up to 25° the complex dissolves with decomposition giving a solution with high NaCl content and a ppt. with high glucose content. Above 30°, I dissolves like a binary compound without decomposition. The saturated solution contains at −10°, −2·5°, +2·5°, 5°, 10°, 15°, 20°, 25°, 30°, 35°, and 40° the following wt.-% of glucose: 16·1, 20·2, 22·4, 26·8, 29·6, 35·8, 44·1, 49·3, 53·6, 54·9, and 57·0% and NaCl: 14·8, 16·0, 14·2, 12·7, 12·5, 11·8, 10·3, 9·3, 8·9, and 9·7%, while the solid phase contains glucose: 89·8, —, 66·0, 62·5, 73·2, 64·9, 77·1, 74·6, 74·6, 70·7, and 75·7% and NaCl: 1·57, —, 5·1, 5·5, 5·4, 5·4, 2·8, 10·1, 12·8, 12·3, and 12·9%. In a separate series of experiments, finely-powdered I was decomposed by H_2O at different temp. and pptd. glucose was separated from the filtrate after 1 hr. after the thickening of the solution without waiting for the establishment of full equilibrium. The best temp. for the decomp. of I is 5°; 15° is the best easily obtainable temp. for this process. It is not advisable to reach the equilibrium but on the contrary the filtration should be carried out after the thickening of the solution. Under these conditions the solution at 5° contains about 18·2% of glucose instead of 26·8% in saturated solution, while the NaCl % is roughly equal in both cases. Using different proportions of H_2O : I the yield of cryst. glucose is as follows: 55·6 at 1 : 1, 62·7 at 1 : 1·25, 64·3 at 1 : 1·5, 76·5 at 1 : 1·75, and 78% at 1 : 2 ratio. It is advisable to use finely-powdered I for its decomposition for kinetic reasons, for better yield, and for higher purity of glucose.

J. B. J. ZABA.

LEBEDEV, N.V.

LEBEDEV, N.V., kand.tekhn.nauk; LYUBIN, B.C., kand.khim.nauk

Edible crystalline glucose from wood. Khim.nauka i prom. 2 no.4:437-443 '57. (MIRA 10:11)

(Glucose) (Wood--Chemistry) (Hydrolysis)

LEBEDEV, N.V.; LYUBIN, B.O.; BANNIKOVA, A.A.

Yield of crystallized glucose in the decomposition of a binary compound of glucose and sodium chloride. Gidroliz. i lesokhim.prom. 11 no.7:3-5 '58. (MIRA 11:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut gidroliznoy i sul'fitnospirtovoy promyshlennosti.
(Glucose) (Crystallization)

LEBEDEV, N.V., kand.tekhn.nauk

Isolation of crystalline glucose from solutions via its double compounds with sodium chloride. [Trudy] NTO bum.i der.prom. no.8:204-207 '59. (MIRA 16:2)

(Glucose)

LEBEDEV, N. V. (NIIGS)

"Chemical diagram of the system glucose-sodium chloride-water and its analysis"

Report presented at the Conference on the Theory and Technology of Crystalline Glucose Production, Leningrad, March 1961 (Reported in Gidrol i lesokhim, 4, 1961)

LEBEDEV, N.V.

Crystallization processes in the production of glucose.
Gidroliz. i lesokhim. prom. 14 no.8:8-10 '61. (MIRA 16:11)

1. Gosudarstvennyy nauchno-issledovatel'skiy institut gidroliznoy i sul'fitno-spirtovoy promyshlennosti.

LEBEDEV, N.V.; BANNIKOVA, A.A.

Higher yields of crystalline glucose during the degradation of a double compound of glucose and sodium chloride. Sbor.trud. NIIGS 11:58-65 '63. (MIRA 16:12)

YEMEL'YANOVA, I.Z.; LEBEDEV, N.V.; VAKHRUSHEVA, K.P.

Composition of semifinished products obtained in the preparation of crystalline glucose from wood. Sbor.trud. NIIGS 11:66-72 '63.
(MIRA 16:12)

YEMEL'YANOVA, I.Z.; PETUKHOVA, L.L.; LEBEDEV, N.V.

Decomposition of glucose during heating in hydrochloric media.
Sbor.trud.NIIGS 12:172-179 '64. (MIRA 18:3)

USSR/Biology - Ecology

Lebedev, N.V.

FD-1686

Card 1/1 : Pub. 129-11/25

Author : Lebedev, N. V.

Title : The interrelationship between Neries succinea and local forms of benthos in the northern Caspian Sea

Periodical : Vest. Mosk. un., Ser. fizikomat. i yest. nauk, Vol. 10, 89-118, Feb 1955

Abstract : In an attempt to improve the fodder base for fish, Neries succinea, a worm from the Sea of Azov, was introduced into the Caspian Sea. A detailed investigation of its spread and the interrelationships between it and local forms of benthos found in the northern Caspian is given. Thirteen charts are presented showing the distribution of various marine animals. The results of the investigation are illustrated by seven tables. Eleven Soviet sources are cited.

Institution : Chair of Darwinism

Submitted : July 30, 1953

LEBEDEV, N.V.

Intraspecific groups of some corophiids and gammarids in the northern part of the Caspian Sea. Vest.Mosk.un.Ser.biol., pochv., geol., geog. 14 no.2:47-57 '59. (MIRA 13:4)

1. Kafedra darvinizma, Moskovskogo gos. universiteta.
(Caspian Sea--Amphipoda)

LEBEDEV, N.V.

Intraspecific groups of Corophium curvispinum G.O.Sars and Corophium monodon G.O.Sars in the northern Caspian. Nauch.dokl.vys. shkoly; biol.nauki no.3:29-33 '59. (MIRA 12:10)

1. Rekomendovana kafedroy darvinizma Moskovskogo gosudarstvennogo universiteta im. M.V.Lomonosova.
(Caspian Sea--Amphipoda)

LEBEDEV, N.V.

Estimating the extent of mollusk consumption by fishes and determining the abundance of fishes in commercially important congregations of feeding grounds. Vop. ikht. no.16:34-55 '60. (MIRA 14:4)

1. Kafedra darvinizma Moskovskogo gosudarstvennogo universiteta.
(Fisheries—Research) (Fishes—Food)

LEBEDEV, Nikolay Vladimirovich; SOKOLOVA, N.A., red.; MITYAYEVA,
Yu.P., red.; LAZAREVA, L.V., tekhn. red.

[Lecture course on Darwinism]Kurs lektsii po darvinizmu. Moskva,
Izd-vo Mosk. univ., 1962. 341 p. (MIRA 16:1)
(Evolution)

LEBEDEV, N.V.; CHZHEN CHZHEN-DYUN

Causes of the heterogeneity of eggs in some fishes. Zool. zhur. 42 no.2:256-267 '63. (MIRA 16:3)

1. Biologico-Pedological Faculty, State University of Moscow.
(Fishes—Eggs)

LEBEDEV, N.V.; FADEYEV, Ye.V.; LOGVINENKO, B.M.; NEFEDOV, G.N.; ZIL'-BERMINTS, L.A.

Effect of acoustic oscillations on some representatives of the zooplankton of the Black Sea. Nauch. dokl. vys. shkoly; biol. nauki no. 2:94-96 '64. (MIRA 17:5)

1. Rekomendovana kafedroy darvinizma Moskovskogo gosudarstvennogo universiteta im. M.V.Lomonosova.

LEBEDEV, N.V.; LOGVINENKO, B.M.; FADEYEV, Ye.V.; NEFEDOV, G.N.;
ZIL'BERMINTS, L.A.; DEDUKHOVA, V.A.

Motor responses of anchovies to accustic stimuli. Nauch. dokl. vys. shkoly; biol. nauki no.2:91-94 '65. (MIRA 18:5)

1. Rekomendovana kafedroy darvinizma Moskovskogo gosudarstvennogo universiteta im. M.V. Lomonosova.

LEBEDEV, N.Ye. (Moskva, D-80, B.Novo-Koptevskiy proyezd, d.37, korp.9, kv.27)

Amputations and their types in endarteriosis and atherosclerosis of the vessels of the limbs. Nov. khir. arkh. no.9:46-53 S '61.
(MIRA 14:10)

1. Kafedra obshchey khirurgii (zav. - prof. G.P.Zaytsev) pediatricheskogo fakul'teta 2-go Moskovskogo meditsinskogo instituta na baze 4-y gorodskoy klinicheskoy bol'nitsy.
(AMPUTATIONS) (ARTERIES—DISEASES)

LEBEDEV, N.Ye. (Moskva, D-80, Bol'shoy Novo-Koptevskiy poyezd, d.37, korp.12, kv.27)

Amputation in arteriosclerotic gangrenes of the extremities. Ortop.,travm.i protez. no.4:17-22 '62. (MIRA 15:5)

1. Iz kliniki obshchey khirurgii (dir. - zasluzh. deyatel' nauki prof. G.P. Zaytsev) 2-go Moskovskogo meditsinskogo instituta im. N.I. Pirogova na baze 4-y gorodskoy klinicheskoy bol'nitsy (glavnyy vrach - G.F. Papko).
(ARTERIOSCLEROSIS) (GANGRENE) (AMPUTATION)

YUKHTIN, V.I., dotsent; LEBEDEV, N.Ye.

Choice of the level of amputation in gangrene of the extremities as a result of endarteriosis. Ortop., travm.i protez. no.4:11-17 '62. (MIRA 15:5)

1. Iz kliniki obshchey khirurgii (dir. - zasluzh. deyatel nauki prof. G.P. Zaytsev) 2-go Moskovskogo meditsinskogo instituta im. N.I. Pirogova na baze 4-y gorodskoy klinicheskoy bol'nitsy (glavnyy vrach - kand.med.nauk G.F. Papko).
(AMPUTATION) (ARTERIES--DISEASES) (GANGRENE)

LEBEDEV, N.Ye.

Complications and postoperative care in amputations of the extremities caused by endarteritis. Nauch.trudy Chetv.Mosk.gor. klin.bol'. no.1:147-159 '61. (MIRA 16:2)

1. Iz kliniki obshchey khirurgii pediatricheskogo fakul'teta (dir. - prof. G.P. Zaytsev) 2-go Moskovskogo gosudarstvennogo meditsinskogo instituta imeni N.I. Pirogova, na baze Moskovskoy gorodskoy klinicheskoy bol'nitsy No.4 (glavnyy vrach - G.F. Papko). Zav. 5-m khirurgicheskim otdeleniyem Moskovskoy gorodskoy klinicheskoy bol'nitsy No.4 N.Ye. Lebedev).

(ARTERIES—DISEASES) (AMPUTATION)

STARTSEV, I.V.; LEBEDEV, N.Ye. (Moskva)

Clinical aspects and treatment of complicated hemorrhoids.
(MIRA 17:2)
Kaz.med. zhur. 4:862 Jl-Ag'63

LEBEDEV, N. Ye., kand. med. nauk (Moskva, D-80, Bol'shoy Novo-Koptevskiy prospekt, 37, korpus IX, kv.27)

Exarticulation of toes and amputation at the foot level in the gangrenous stage of endarterisis and atherosclerosis. Vest. khir. 92 no.4:73-76 Ap '64 (MIRA 18:1)

1. Iz kliniki obshchey khirurgii (direktor - prof. G.P. Zaytsev) pediatricheskogo fakul'teta 2-go Moskovskogo meditsinskogo instituta imeni N.I. Pirogova i 4-y gorodskoy klinicheskoy bol'nitsy (glavnyy vrach - V.V. Barlyayeva).

LEBEDEV, N.Ye., kand. med. nauk

Selection of the level and method of amputation in gangrenous stages of entarteritis and atherosclerosis of extremital vessels. (MIRA 18:7)
Khirurgiia 40 no.11:38-46 N '65.

1. Klinika obshchey khirurgii (dir. - prof. G.P. Zaytsev) II Moskovskogo gosudarstvennogo meditsinskogo instituta imeni Pirogova i 4-ya Moskovskaya gorodskaya klinicheskaya bol'nitsa (glavnyy vrach V.V. Barlyayeva).

85455

S/149/60/000/005/006/015
A006/A001

18.3100 1087,1454

AUTHORS: Muzhzhavlev, K.D. and Lebedev, O.A. 27

TITLE: On the Problem of Improving the Quality of Electrolytical Magnesium

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Tsvetnaya metallurgiya, 1960, No. 5, pp. 89-94

TEXT: In considering the problem of improving the quality of electrolytical magnesium the authors use literature data, results obtained at the Berezniki and Solikamsk magnesium plants and data obtained by special experiments carried out by the authors and workers of the Berezniki plant. The properties of electrolytical magnesium depend on various factors, such as the quality of the raw material, the design of the electrolytic cell and technology of electrolysis. A series of measures is proposed to raise the purity of initial magnesium. Chlorous magnesium obtained by the magnesium-thermal method of titanium reduction is suggested as a raw material. This material contains the following impurities (in %): 0.01 Fe, traces of SiO_2 and SO_4, Al_2O_3 - none and 0.2 MgO. These impurities may cause cathode passivation and "bubbling" of the electrolyte which entails stirring of the slime and makes the electrolyte non-transparent. Special investigations

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S/149/60/000/005/006/015
A006/A001

On the Problem of Improving the Quality of Electrolytical Magnesium

should be carried out to improve the quality of the raw material. It was shown by special tests that the addition of magnesium chips to a carnallite fusion containing up to 1% SO^{2-}_4 reduced the sulfur and moisture content to traces within some minutes. New electrolytic cells should be designed in such a manner that their efficiency be raised and the specific consumption of electric power be reduced, producing magnesium of higher purity. This may be attained by improving the quality of the furnace lining using magnesite bricks and by preventing the destruction of the cathode steel bars contaminating the electrolyte with iron. The durability of cathode bars may be raised by artificial cooling. The new design of electrolytic cells should provide for the collection of magnesium from the cells to one spot prior to its extraction. Presently, designs have been proposed ensuring the collection of magnesium and slime into a special cell from which mechanized slime extraction can be performed. (Author's claim submitted by V.V. Krivoruchenko # 609079 of October 8, 1958). The information includes the following technological recommendations: optimum electrolyte temperature 690-720°C; use of a sodium-calcium electrolyte containing 10% $MgCl_2$, 25-35% $CaCl_2$; NaCl; KCl $\geqslant 3$; the concentration of magnesium chloride should not be below 8-10% in order to obtain high-purity magnesium. The observation of the measures suggested

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S/149/60/000/005/006/015
A006/A001

On the Problem of Improving the Quality of Electrolytical Magnesium

would ensure the production of magnesium with a content of impurities (particularly Fe, S, A) by several times below that was provided by GOST for Mg-1 grade magnesium. There is 1 table and 7 references: 6 Soviet and 1 English. This article was recommended for publication by the kafedra elektropirometallurgii tsvetnykh metallov (Department of Electropyrometallurgy) of the Leningradskiy politekhnicheskiy institut (Leningrad Polytechnic Institute)

ASSOCIATION: Leningrad Polytechnic Institute; Vsesoyuznyy alyuminiyevo-magniyevyy institut (All-Union Aluminum-Magnesium Institute)

SUBMITTED: January 5, 1960

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86936

S/149/60/000/006/007/018
A006/A001

18.3100 1087, 1208, 1454

AUTHORS: Lebedev, O.A., Muzhzhavlev, K.D.

TITLE: Obtaining High-Purity Magnesium by the Method of Electrolytic Refining

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Tsvetnaya metallurgiya, 1960, No. 6, pp. 80-86

X

TEXT: In the USSR the basic method of obtaining high-purity magnesium is vacuum distillation of Mg1 grade magnesium, developed from 1953-55 by I.D. Tsaregorodtsev and V.M. Gus'kov (Ref. 3). Primary magnesium of higher purity than Mg1 magnesium can be obtained directly from a magnesium electrolytic cell. This was confirmed by experiments made at an American plant where primary electrolytic magnesium was obtained with a content of only 0.003% Fe (Ref. 1) although the content of other impurities was not considerably reduced. The main deficiency of vacuum distillation is the fact that magnesium cannot be uniformly refined of all the impurities. A method of obtaining high-purity magnesium by electrolytic refining of raw magnesium has been laboratory tested for the first time by the All-Union Scientific Research Institute of Aluminum and Magnesium in cooperation with

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S/149/60/000/006/007/018
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Obtaining High-Purity Magnesium by the Method of Electrolytic Refining

the Leningrad Polytechnic Institute. The same two- and three-layer methods employed in electrolytic refining of aluminum were used in this case. The lay-out of the electrolyzer (1-1.5-liter-capacity) which was used in the experiments is shown in the illustration. A batch of the electrolyte and magnesium was placed in the electrolyzer and heat was supplied during continuous hydrogen chloride feed which was not interrupted in order to prevent hydrolysis of the electrolyte. After the salt and magnesium had melted, the metal floated up in the cathodic space and was carefully scooped into the anodic space; then the dried cathode was slowly introduced. After switching on the current, the magnesium was scooped every 30-60 minutes with a graphite ladle, poured onto a graphite plate and after cooling placed into glass containers. The metal samples were subjected to spectral and chemical analysis. The composition of the electrolyte was 30% magnesium chloride, 35% each sodium and potassium chloride, with a 2% addition of calcium floride. Bath temperature was 700-750°C; the current density (cathode) was 1.3 a/cm^2. The average impurity content of electrolytically refined magnesium is approximately 0.005% as compared with 0.01% for vacuum distilled magnesium. Approximate

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Obtaining High-Purity Magnesium by the Method of Electrolytic Refining

economical calculations show that power consumption is approximately equal for both methods, but the attendance of the electrolytic cell is less labor consuming. It can be expected that magnesium obtained by electrolytical refining will be of a higher purity and the method will be cheaper than vacuum distillation. The preliminary results obtained should be completed by the further development of theoretical, constructional and technological problems.

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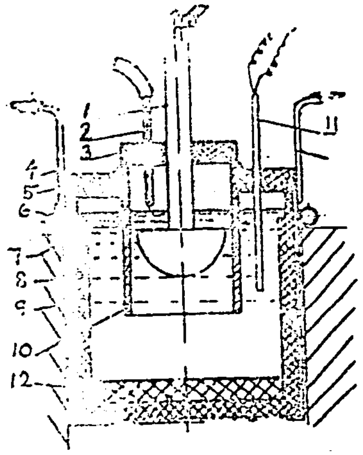
Obtaining High-Purity Magnesium by the Method of Electrolytic Refining

Schematic drawing of the electrolyzer



1 - graphite cathode; 2- quartz tube for feeding hydrogen chloride; 3 - graphite cathode cover; 4 - anode power connection; 5 - graphite anode cover; 6 - cooling pipe; 7 - raw magnesium; 8 - steel crucible; 9 - graphite body of electrolyzer; 10 - magnesite diaphragm; 11 - quartz cover of thermocouple; 12 - magnesite plate. In two-layer refining, a magnesite plate is mounted to insulate the bottom (12). In three-layer refining this plate is removed and a liquid magnesium-copper alloy is filled onto the bottom.

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Obtaining High-Purity Magnesium by the Method of Electrolytic Refining

There are 3 tables, 1 figure and 3 references: 2 English and 1 Soviet.

ASSOCIATIONS: Vsesoyuznyy alyuminiyevo-magniyevyy institut (All-Union Institute of Aluminum and Magnesium); Leningradskiy politekhnicheskiy institut (Leningrad Polytechnic Institute)

SUBMITTED: January 5, 1960

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Card 5/5

LEBEDEV, O.A.; SHAMOV, V.P.

Portable counting device using decartons. Gig.i san. 25 no.7:63-64 Jl '60. (MIRA 14:5)

1. Iz Instituta radiatsionnoy gigiyeny Ministerstva zdravookhraneniya RSFSR.
(RADIOMETER)

18.3100 1087

21034
S/598/61/000/006/019/034
D228/D303

AUTHORS: Ivanov, A.I., Lebedev, O.A., Timofeyev, V.V.
Vinokurov, V.B., and Frantas'yev, N.A.

TITLE: Electrolysis of titanium tetrachloride in molten chloride salts

SOURCE: Akademiya nauk SSSR. Institut metallurgii. Titan i yego splavy. no. 6, 1961. Metallotermiya i elektrokhimii titana, 136 - 144

TEXT: The authors studied the technological aspects of the electrolysis of $TiCl_4$ in molten chlorides -- NaCl 50, $CaCl_2$ 35, $BaCl_2$ 15 % -- in a large, laboratory pilot-plant. 403 electrolyses were carried out, and the longest period of continuous operation, during which the cathode and deposits were extracted 50 times, was about 100 hr. $TiCl_4$ was fed through a special quartz pipe into the space between the stainless-steel cathode and graphite-block anode. The following optimum conditions for electrolysis on a semi-industrial scale were first established: 1) The saturation of the electrolyte with $TiCl_4$ for 1 hr. at a d.c. strength of about 200 amp. and at a
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Electrolysis of titanium tetrachloride.. S/598/61/000/006/019/034
D228/D303

$TiCl_4$ outlay of 1 - 1.5 l/hr.; 2) A unit-electrolysis time of 5 amp.hr./cm^2 -- the cohesion between the cathode and deposit is poor at 15 - 22 amp.hr./cm^2; 3) A cathode current-density of approximately 1.8 - 2.0 amp/cm^2; 4) An operating temperature of 720 - 750°; 5) A $TiCl_4$ outlay of 1 1/1000 amp.hr.; and 6) The cessation of the $TiCl_4$ input for 5 min. before the end of the electrolysis -- to process the electrolyte at a nominal current-strength. These specifications were then checked by experiments in an electrolyzer with a hollow cathode and fixed cell -- when it was found that varying the current-strength has little effect on the electrolyte's Ti content for a given outlay of $TiCl_4$ that within the limits 1.5 - 2.72 amp/cm^2 the cathode current-density does not influence the grade or yield of the Ti deposit, that raising the operating temperature to 800° reduces the amount of Ti precipitated at the cathode, and that varying the $TiCl_4$ input above or below 1 ml/1 amp.hr. lowers the current-discharge as a result of the formation of Na or lower chlorides on the electrode surfaces. Additional tests showed that the current discharge is 60 - 70 %, and that the cathode metal contains 1.5 - 4 % of impurities: Fe -- from the cathode rod; C - from

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Electrolysis of titanium tetrachloride.. S/598/61/000/006/019/034
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the a.c. electrodes; Si, Mg and Al - from the lining of the bath; and O, H and N - whose concentration depends on the electrolyzer's airtightness. In conclusion, the authors mention certain problems which require further study if the current-discharge and grade of the metallic Ti are to be improved. These include the perfection of the technique of prolonged continuous electrolysis; the improvement in the design of the electrolizer's components -- in particular the distributor for introducing the $TiCl_4$; and the rectification of defects in the electrolyte -- its poor ability to dissolve $TiCl_4$ and its tendency to abrade the brick-linings and steel parts. The content of impurities, whose transference is proportional to the time of electrolyis and to the area of the various working-surfaces, would be reduced by increasing the electrolyzer's airtightness, by removing the a.c. graphite electrodes, by cooling parts of the steel cathodes, by glazing the steel covers, and by lining the bath's inner walls with MgO slabs. There are 5 figures and 2 tables.

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18.3100

21035
S/598/61/000/006/020/034
D245/D303

AUTHORS: Ivanov, A.I., Timofeyev, V.V., Vinokurov, V.B., and Lebedev, O.A.

TITLE: Electrolysis of titanium tetrachloride in fused chlorides

SOURCE: Akademiya nauk SSSR. Institut metallurgii. Titan i yego splavy. no. 6, 1961. Metallotermiya i elektrokhimiya titana, 145 - 152

TEXT: The design is described of a pilot-scale cell for electrolysis of $TiCl_4$ in fused chlorides. Operation was continuous with a molten alloy cathode and a graphite anode. The Ti formed on the cathode surface and was periodically removed by ladles moving between cathode and anode. The bath consisted of a welded, water-cooled housing lined with chamotte brick to a wall thickness of 130 - 150 mm. Reference is also made to other cells designed by the author and collaborators, namely an electrolytic cell with extractable cathode and stationary compartment (Ref. 10: Avtorskaya zayavka

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Electrolysis of titanium tetrachloride... S/598/61/000/006/020/034
D245/D303

s prioritetom ot 10/V 1956 g., no. 461408) and with reversible cathodes (No. 461772). The chief drawbacks of the design proposed were the lack of an effective means of feeding $TiCl_4$ to the electrolyte and the unsatisfactory hermetic sealing of the cell. There are 1 figure and 11 references: 2 Soviet-bloc and 9 non-Soviet-bloc. The 4 most recent references to the English-language publications read as follows: M.E. Sibert and M.A. Steinberg, J. Metals, 1956, v. 8, no. 9, 1162-8; American Metal Market, 1957, v. 64, no. 101, 1; Metal Bull. 1957, no. 4200, 28; J. Burges, G. Brown, C. Roberts, J. Appl. Chem., 1958, v. 8, no. 1, 6.

Card 2/2

S/149/62/000/002/005/008
A006/A101

18.1741

AUTHORS: Lebedev, O. A., Muzhzhavlev, K. D.

TITLE: Electrolytical refining of magnesium alloys

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Tsvetnaya metallurgiya, no. 2, 1962, 72-77

TEXT: Results of laboratory studies are presented, which were carried out for the purpose of revealing the possibility to obtain commercial Mr 1 (Mg1) or Mr 2 (Mg2) grade magnesium from magnesium-alloy scrap, by means of three-layer electrolytical refining. The experimental magnesium alloy contained Mg +10% Al + 1.5% Zn + 0.5% Mn + 0.3% Ni + 0.5% Si; 20 - 30% Cu was added as weighting compound. The electrolyte was composed of 40% KCl, 40% NaCl, 10% $BaCl_2$, 10% $MgCl_2$. The experiments were made in three series: 1) to study the effect of the anode current density on the quality of the cathode metal; 2) to study the degree of magnesium extraction from the anode alloy and the technological indices of electrolytical refining; 3) to reveal the possibility of using zinc as a weighting compound and to test a lesser hygroscopic electrolyte. The following results were obtained. At 0.4 - 0.8 amp/cm^2 density of the anode current and

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Electrolytical refining of magnesium alloys

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about 1 amp/cm^2 density of the cathode current, the magnesium obtained from the refining of alloys corresponds, regarding the majority of admixtures, to grade "Mg1" GOST 804-56. The maximum degree of extracting magnesium from the anodic alloy is about 80 - 90%. Slime formation has a great effect on the electrolytic process; the cathode current efficiency decreases from 100 to 50% as magnesium extraction increases from 0 to 80% and more. Preliminary experiments on the use of zinc as a weighting compound show the possibility of three-layer refining at about 30% Zn content in the anode alloy. At D$_a$ varying from 0.4 - 0.8 amp/cm^2, the Zn content in the cathode metal is 0.03 - 0.1%. Further investigations are necessary. There are 1 figure, 4 tables, and 5 references: 4 Soviet-bloc and 1 non-Soviet-bloc.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy alyuminiyevo-magniyevyy institut (All Union Scientific Research Institute of Aluminum and Magnesium)

SUBMITTED: May 9, 1961

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LEBEDEV, O.A.; MUZHZHAVLEV, K.D.

Electrolytic refining of magnesium alloys. Izv. vys. ucheb. zav.; tsvet. met. 5 no.2:72-77 '62. (MIRA 15:3)

1. Vsesoyuznyy nauchno-issledovatel'skiy alyuminiyevo-magniyevyy institut.

(Magnesium alloys--Electrometallurgy)

LEBEDEV, O.A.

Method for designing drilling strings for deep wells.
Trudy KF VNII no.9:21-24 '62. (MIRA 15:9)
(Oil well drilling--Equipment and supplies)

MUZHZHAVLEV, K. D.; LEBEDEV, O. A.; IVANOV, A. I.; DESYATNIKOV, O. G.

Ways of avoiding manual labor for the removal of sludge from magnesium electrolytic cells. TSvet. met. 35 no.10:56-62 O '62. (MIRA 15:10)

(Magnesium—Electrometallurgy)

MUZHZHAVLEV, K.D.; LEBEDEV, O.A.; DEGYATNIKOV, O.G.

Some problems in the technology of magnesium electrolysis. TSvet. met. 36 no.4:55-61 Ap '63. (MIRA 16:4)

(Magnesium—Electrometallurgy)

LEBEDEV, O. A.; FRANTAS'YEV, N. A.; OLYUNIN, G. V.; MUZHZHAVLEV,
K. D.; SHEKA, V. P.; SHEKA, T. S.

Developing a method of mechanized removal of electrolytic slime in magnesium production. TSvet. met. 36 no. 11:38-41 N '63. (MIRA 17:1)

LEBEDEV, O.A.

Collapsing pressure for casings when casing oil and gas wells.
Neft. khoz. 41 no. 11:18-23 N '63. (MIRA 17:7)

S/2563/63/000/223/0025/0034

ACCESSION NR: AT4026276

AUTHOR: Baymakov, Yu. V.; Lebedev, O. A.

TITLE: Titanium and hydrogen

SOURCE: Leningrad. Politekhnicheskiy institut. Trudy*, no. 223, 1963. Metallurgiya tsvetny*kh metallov (Metallurgy of nonferrous metals), 25-34

TOPIC TAGS: titanium, hydrogen, titanium hydrogen reaction

ABSTRACT: The interaction between titanium and hydrogen was studied in the Laboratoriya elektrometallurgii tsvetny*kh metallov Leningradskogo politekhnicheskogo instituta (Nonferrous Electrometallurgical Laboratory of the Leningrad Polytechnical Institute). The absorption of hydrogen by titanium was studied in a small nickel cylinder placed in a tubular oven filled with hydrogen. Saturation of the titanium cathode by hydrogen during electrolysis of sulfuric acid with a lead anode was also tested. In addition, the decomposition of titanium hydride was investigated, and the tests of T. Gibb on titanium hydride dissociation tension were repeated. Results showed that the maximum content of hydrogen in titanium is 42.96 liters/100 g of the powder and 38.14 liters/100 g of the compact form. The temperature of the initial reaction with hydrogen is 330C, and the maximum saturation of titanium by hydrogen takes place in the interval 300-500C; the

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ACCESSION NR: AT4026276

saturation rate is limited by diffusion. The hydride begins to dissociate at 350-380C, with a maximum rate at 570-650C. Studies of the titanium hydride dissociation tension at 300-700C showed that desorption of hydrogen begins at 300C and hydride dissociation at 500C. At 25C, the free energy of formation and dissociation of titanium hydride is +10,100 cal/mol, the entropy is 22 cal/deg, and the thermal effect is 16,700 cal/mol. Orig. art. has: 7 figures and 4 tables.

ASSOCIATION: POLITEKHNICHESKIY INSTITUT, LENINGRAD (Leningrad Polytechnical Institute)

SUBMITTED: 00

DATE ACQ: 16Apr64

ENCL: 00

SUB CODE: ML

NO REF SOV: 005

OTHER: 008

Card 2/2

LEBEDEV, Oleg Andreyevich; FRANTAS'YEV, Nikolay Anatol'yevich;
MUZHZHAVLEV, Konstantin Dmitriyevich

[Casting, refining, and preparing magnesium alloys; manual for workers in magnesium foundries] Lit'e, rafinirovanie i prigotovlenie magnievykh splavov; posobie dlia rabochikh liteinykh tsekhov magnievykh zavodov. Moskva, Metallurgiia, 1965. 56 p. (MIRA 18:7)

L 28970-66 EWT(m)/EWP(e)/T/EWP(t)/ETI IJP(c) DS/JD/WW/WH

ACC NR: AP6019136 SOURCE CODE: UR/0136/65/000/003/0060/0065

AUTHOR: Muzhzhavlev, K. D.; Lebedev, O. A.; Frantas'yev, N. A.; Olyunin, G. V.; Dolgikh, T. K.; Sheka, T. S.

52
50
B

ORG: none

TITLE: Improvement in the technology of magnesium chloride electrolysis 1 ,4

SOURCE: Tsvetnyye metally, no. 3, 1965, 60-65 21

TOPIC TAGS: electrolyte, electrolysis, titanium, magnesium, chloride, furnace, magnesium compound, chlorination

ABSTRACT: On the basis of the pilot plant investigations conducted by the authors in 1959-1960, a sodium-potassium electrolyte composed of (%):8-18 $MgCl_2$, 60-30 NaCl, 20-50 KCl, 0-10 $CaCl_2$ or $BaCl_2$, was recommended for the electrolysis of $MgCl_2$ obtained from the production of titanium.

In 1961-1963, at one magnesium plant, extensive research of the sodium - potassium electrolyte was conducted at a group of experimental industrial electrolyzers operated for 1-1.5 years after replacement of the lining before the beginning of the tests. For comparison, the sodium-calcium and potassium electrolytes were tested simultaneously under comparable conditions.

The electrolyzers were fed molten $MgCl_2$ from titanium production containing (%): 95-99 $MgCl_2$, 0.4 MgO, 0.004 SiO_2, 0.007 Fe, ∠ 0.02 C, 0.01 SO_4^{-2}, 0.01 F^-, 0.04 H_2O, and 0-2 Mg metal.

The slime from the electrolyzers was removed manually once in 7 days; the distance between electrodes was kept at 8-10 cm; fluorides were not introduced into the electrolyzers. The anode current density for all electrolyzers was identical - 0.43 a/cm^2. In contrast to the earlier issued recommendations, the electrolyte temperature was kept at 700-720°C.

UDC: 669.721

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ACC NR: AP6019136

To control the true value of the current yield the electrolyzers were periodically (6-10 days) changed to a feed of $MgCl_2$ obtained in electrical shaft furnaces.

Identically high and stable average current yield, approximating 90%, was obtained in the sodium-potassium and potassium electrolyzers. The current yield for the sodium-calcium electrolyte was 4-6% lower.

The amount of slime in the potassium and sodium-potassium electrolytes was identical (0.06 kg/mg Mg); in the sodium-calcium electrolyte, 70% more slime was obtained.

Because of these factors the actual electrical conductivity of the sodium-potassium electrolyte is approximately 20% higher than the electrical conductivity of the sodium-calcium electrolyte with the same amount of NaCl in the electrolyte.

The amount of magnesium raw material in the main impurities, the losses of metallic magnesium with the slime, the yield and concentration of chlorine, and the stability of the lining in the experimental industrial electrolyzers were identical for all three electrolyte compositions.

Relationship of current yield to the interelectrode distance showed in pilot-plant electrolyzers of the All-Union Aluminum and Magnesium Institute (VAMI), that the change in distance between electrodes within the limits of 3-16 cm does not at all affect current yield.

In 1963, this relationship was studied on an experimental industrial electrolyzer. When the composition of the electrolyte was (in %): 8-12 $MgCl_2$, 22-24 NaCl, 63-56 KCl and 3.0 $CaCl_2$, the current yield and the electric

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